

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 13485

Port of Hamburg Date of First Survey 17th April Date of Last Survey 30th June No. of Visits 13
 No. in Reg. Book on the ~~Iron~~ Steel S.S. "Sumatra" Port belonging to Hamburg
 Built at Feussburg By whom Feussburger Schiffb. Ges. When built 1913
 Owners Deutsch-Austral. Dampfschiffs. Ges. Owners' Address Hamburg
 Yard No. 332 Electric Light Installation fitted by the Builders When fitted 1913

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two Compound Steam Engines made by Friedrich & Co. Paderborn, coupled direct to two Siemens Schuckert Dynamos, running at 300 rev. per min.

Capacity of Dynamo each 145 Amperes at 110 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine Room Whether single or double wire system is used double

Position of Main Switch Board Engine Room having switches to groups A, B, C, D & E. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 in Engine Room with 10 switches, 1 in Steam Steering Space with 11 switches, 1 in Salon passage with 14 switches, 1 under Forecastle with 7 switches, 1 in Chartroom with 5 switches.

If cut outs are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch board to the cables of auxiliary circuits yes and at each position where a cable is branched or reduced in size yes and to each lamp circuit yes

If vessel is wired on the double wire system are cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the cut outs of non-oxidisable metal yes and constructed to fuse at an excess of 25 per cent over the normal current

Are all cut outs fitted in easily accessible positions yes Are the fuses of standard dimensions yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit —

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 251 arranged in the following groups:—

A Eng. + Boiler Space	43 lights each of	16	candle power requiring a total current of	20	Amperes
B Mid Ship Sec.	55 lights each of	16	candle power requiring a total current of	25	Amperes
C Forecastle	79 lights each of	16	candle power requiring a total current of	36	Amperes
D Forecastle	47 lights each of	16	candle power requiring a total current of	22	Amperes
E Chartroom	5 lights each of	2 off 32, 2 off 25, 1 off 16	candle power requiring a total current of	4	Amperes
F Mast head light	with 1 lamps each of	25	candle power requiring a total current of	2	Amperes
F Side light	with 1 lamps each of	22	candle power requiring a total current of	2	Amperes
F Stern	"	16	"	1.5	"
F Cargo lights	of	2	candle power, whether incandescent or arc lights	20	"

If arc lights, what protection is provided against fire, sparks, &c. Glas globes

14 cluster lamps à 6 lights, of each 16 candle power, included in B.C.D.

Where are the switches controlling the masthead and side lights placed Chartroom

DESCRIPTION OF CABLES.

Main cable carrying 145 Amperes, comprised of 19 wires, each 4.5 ^{inches} E.S.G. diameter, 95 ^{square} inches total sectional area

Branch cables carrying 50 Amperes, comprised of 19 wires, each 2.6 ^{inches} E.S.G. diameter, 50 ^{square} inches total sectional area

Branch cables carrying 40 Amperes, comprised of 19 wires, each 1.8 ^{inches} E.S.G. diameter, 35 ^{square} inches total sectional area

Leads to lamps carrying .5 Amperes, comprised of 1 wires, each — ^{inches} E.S.G. diameter, 1.5 ^{square} inches total sectional area

Cargo light cables carrying 10 Amperes, comprised of 7 wires, each 2.3 ^{inches} E.S.G. diameter, 16 ^{square} inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Main & Branch cables: Copper tinned, coated with Para Rubber, coated with impregnated jute tape, lead bound, spun with jute band, double iron bound and spun with jute and asphalted.

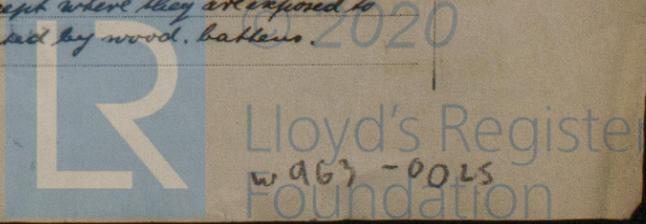
Circuit & Lamp leads: Copper tinned, coated with coutchouc & rubber, spun with tape insulation

Joints in cables, how made, insulated, and protected Soldered and covered with coutchouc and tape for lamp circuits and leads, metallic screw joints in water tight boxes on incombustible bases for main and branch cables.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux yes Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage yes

Are there any joints in or branches from the cable leading from dynamo to main switch board no

How are the cables led through the ship, and how protected Main & branch cables carried open except where they are exposed to moisture, where they are protected by iron casings, circuit & lamp leads are protected by wood battens.



DESCRIPTION OF INSULATION, PROTECTION, ETC. - continued.

Are they in places always accessible Yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Iron bound leads covered cables, protected by iron casing, where exposed to moisture.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Iron bound cables

What special protection has been provided for the cables near boiler casings do do

What special protection has been provided for the cables in engine room do do

How are cables carried through beams hard wood bushes through bulkheads, &c. riveted brass bushes

How are cables carried through decks Iron galvanized stand pipe 12" high, filled with non conducting substance.

Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected —

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage no

If so, how are the lamp fittings and cable terminals specially protected —

Where are the main switches and cut outs for these lights fitted —

If in the spaces, how are they specially protected —

Are any switches or cut outs fitted in bunkers no

Cargo light cables, whether portable or permanently fixed portable How fixed —

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel —

How are the returns from the lamps connected to the hull —

Are all the joints with the hull in accessible positions —

The installation is yes supplied with a voltmeter and yes an amperemeter, fixed main switch board

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas —

Are any switches, cut outs, or joints of cables fitted in the pump room or companion —

How are the lamps specially protected in places liable to the accumulation of vapour or gas —

The copper used is guaranteed to have a conductivity of 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 50 billions Siemens units per statute mile after 24 hours' immersion in seawater.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

The Builders are the Flensburger Schiffsbau-Gesellschaft Electrical Engineers Date —

COMPASSES.

Distance between dynamo or electric motors and standard compass 150 ft.

Distance between dynamo or electric motors and steering compass 140 ft

The nearest cables to the compasses are as follows:—

A cable carrying	<u>5</u>	Amperes	<u>close to</u>	feet from standard compass	<u>close to</u>	feet from steering compass
A cable carrying	<u>—</u>	Amperes	<u>—</u>	feet from standard compass	<u>—</u>	feet from steering compass
A cable carrying	<u>—</u>	Amperes	<u>—</u>	feet from standard compass	<u>—</u>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power yes

The maximum deviation due to electric currents, etc., was found to be imperceptible degrees on — course in the case of the standard compass and imperceptible degrees on — course in the case of the steering compass.

Flensburger Schiffsbau-Gesellschaft

Phras Builder's Signature. Date —

GENERAL REMARKS.

The Elec. Light installation on board of this vessel is in my opinion fitted in accordance with the Society's Rules and eligible to be recorded "Elec. Light" in the Society's Register. Both It is submitted that this vessel is eligible for

THE RECORD. Elec. Light. JWD 7/4/13.

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute TUE. JUL 8-1913

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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